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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PAPANIKOLAOU, ATHANASIOS T

ART UNIT

PAPER NUMBER

2625

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/085,559	Applicant(s) SHANNON, TERRENCE M.	
	Examiner Athanasios Tom Papanikolaou	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Pattern Recognition in Device Ready Bits to Determine the Content Type of Device Ready Bits through Reference to a Pattern Library.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim(s) 1, 6, 16, and 21 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner is unclear as to applicant's intended meaning for "determining a content type". Paragraphs 20 and 21 indicate a pattern library is constructed by recording patterns from documents of known content type (i.e. text or image). Fig. 4, elements 402 and 404, and paragraph 33 further exemplify the construction of a pattern library. The proceeding step in element 406 of Fig. 4 examines the rate of pattern repetition followed by a determination of the content type associated with the device ready bits. It is unclear at this point why the content type is determined, considering the content type is already known from the preceding steps in elements 402 and 403. The

examiner believes an indication of a *new* stream of device ready bits of *unknown* content type being examined in element 406 would render the disclosure clear and definite. As this is only an assumption to the material in the disclosure, the examiner respectfully requests a clarification of the applicant's intentions.

Response to Amendment

Applicant's arguments, filed 11/02/05, with respect to the rejection(s) of claim(s) 1- 32 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Claassen et al. (U.S. Patent 6,028,962).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim(s) 1-10, 12-16, and 18-32 is/are rejected under 35 U.S.C. 102(b) as being anticipated by Claassen et al. (U.S. Patent 6,028,962).

Regarding claim(s) 1, 6, 21, and 27, Claassen discloses a **processor-readable medium comprising processor-executable instructions for: comparing a rate of pattern repetition in data** (col 6, lines 14-19: a quadrant is a series of pixels in raster data as seen in Fig. 2 and Fig. 6) **to recorded rates of pattern repetition** (fig 8 and col

6, lines 28-31); **determining a content type using the rate of pattern repetition and the recorded rates of pattern repetition** (col 6, lines 28-31); **and compressing and decompressing data in a manner appropriate to the content type** (col 2, lines 61-63: decompression according to the content type is inherent for the system to function to reciprocate the compression of the encoder).

Regarding claim 2, Claassen discloses the dependency of claim 1, as stated above, and further teaches **additionally comprising instructions for: determining data patterns that are frequently found in a first content type and which are infrequently found in a second content type** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data).

Regarding claim(s) 3, 24, and 30, Claassen discloses the dependency of claim 1, as stated above, and further teaches **additionally comprising instructions for: examining data of a known content type; recording rates of pattern repetition found in the data of the known content type** (fig 8 and col 6, lines 28-31).

Regarding claim(s) 4, 22, 26, 28, and 32, Claassen discloses the dependency of claim 1, as stated above, and further teaches **additionally comprising instructions for: after the rate of pattern repetition changes, compressing and decompressing data according to a new content type** (fig 5: each quadrant, with a particular pattern,

is appropriately encoded depending on the quadrant's content type; furthermore, decompression according to the content type is inherent for the system to function).

Regarding claim(s) 5, 25, and 31, Claassen discloses the dependency of claim 1, as stated above, and further teaches **additionally comprising instructions for: building a pattern library by recording rates of pattern repetition from data of a known content type (col 6, lines 28-31).**

Regarding claim(s) 7, 23, 29, Claassen discloses the dependency of claim 6, as stated above, and further teaches **wherein the data comprises device ready bits appropriate to drive a print engine (col 4, lines 15-16).**

Regarding claim 8, Claassen discloses the dependency of claim 7, as stated above, and further teaches **additionally comprising: a buffer, within which the device ready bits reside after compression and before decompression (col 9, lines 26-32).**

Regarding claim 9, Claassen discloses the dependency of claim 6, as stated above, and further teaches **wherein the compressor is on a workstation (col 4, lines 19-21: the chip could inherently be implemented on any computing device, including a workstation) and the decompressor is on a printer (the system inherently would need**

a decompressor to compliment the compressor and furthermore can be implemented on any computing device including a printer).

Regarding claim 10, Claassen discloses the dependency of claim 6, as stated above, and further teaches **wherein the compressor and the decompressor are on a printer** (col 4, lines 19-21: the logic of the system could inherently be implemented on any computing device, including a printer).

Regarding claim 12, Claassen discloses the dependency of claim 6, as stated above, and further teaches **additionally comprising: a print engine to receive the data after decompression** (the decompression is inherently provided before transmission to a print engine).

Regarding claim 13, Claassen discloses the dependency of claim 6, as stated above, and further teaches **additionally comprising: a learning module, in communication with the data recognition module, to learn relationships between a plurality of data patterns associated with a plurality of content types** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data; furthermore, the logic inherently can be configured in a plurality of modules).

Regarding claim 14, Claassen discloses the dependency of claim 6, as stated above, and further teaches **additionally comprising: a pattern library, in communication with the data recognition module, to store information on relationships between data patterns and content types** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data).

Regarding claim 15, Claassen discloses the dependency of claim 6, as stated above, and further teaches **additionally comprising: a recognition module, in communication with the data recognition module, to associate data patterns and content types** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data; furthermore, the logic inherently can be configured in a plurality of modules).

Regarding claim 16, Claassen discloses **a printer** (col 4, lines 19-21: the logic of the system could inherently be implemented on any computing device, including a printer), **comprising: a data recognition module to recognize a content type of device ready bits, wherein the data recognition module compares a rate of pattern repetition in the device ready bits** (col 6, lines 14-19: a quadrant is a series of pixels in raster data as seen in Fig. 2 and Fig. 6) **to recorded rates of pattern repetition** (fig 8 and col 6, lines 28-31) **and determines a content type using the rate of pattern**

repetition and the recorded rates of pattern repetition (col 6, lines 28-31); **a compressor to compress the device ready bits according to the content type of the device ready bits** (fig 1, element 12: encoding module); **a buffer to store the device ready bits after compression and before decompression** (col 9, lines 26-32); **a decompressor to decompress the device ready bits according to compression of the device ready bits** (a decompressor inherently exists as the compliment to a compressor); **and a print engine to receive the device ready bits after decompression** (a printer inherently has a print engine which receives the final format of processed print data after decompression).

Regarding claim 18, Claassen discloses the dependency of claim 16, as stated above, and further teaches **wherein the data recognition module additionally comprises: a learning module to learn relationships between a plurality of data patterns and a plurality of content types** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data; furthermore, the logic inherently can be configured in a plurality of modules).

Regarding claim 19, Claassen discloses the dependency of claim 18, as stated above, and further teaches **wherein the data recognition module additionally comprises: a pattern library to store information on the relationships** (col 2, lines

31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data).

Regarding claim 20, Claassen discloses the dependency of claim 16, as stated above, and further teaches **wherein the data recognition module additionally comprises: a recognition module to associate data patterns and content types** (col 2, lines 31-34: data patterns are determined from test documents and used to compile a table with entries representative of the most frequently encountered image data; furthermore, the logic inherently can be configured in a plurality of modules).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim(s) 11 and 17 is/are rejected under 35 U.S.C. 103 (a) as being unpatentable over Claassen in view of Accad (U.S. Patent 6,330,363).

Regarding claim(s) 11 and 17, Claassen discloses the dependency of claim 6 and 16, as stated above, but does not disclose **additionally comprising: a PDL interpreter to supply the data to the data recognition module**.

However, Accad discloses **additionally comprising: a PDL interpreter to supply the data to the data recognition module** (fig 1, element 30).

Claassen and Accad are combinable because they are from the same field of endeavor namely print data compression. At the time of the invention it would have been obvious to a person of ordinary skill in the art to have Claassen's system include a PDL interpreter to supply print data, as taught by Accad. The suggestion or motivation for doing so would have been that Claassen's system could provide a rasterized data stream for compression. Therefore, it would have been obvious to combine the teachings of Accad with the system of Claassen to obtain the invention in claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Athanasios Tom Papanikolaou whose telephone number is (571)272-7953. The examiner can normally be reached on 9 a.m-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Athanasios Papanikolaou

JOSEPH R. POKRZYWA
PRIMARY EXAMINER
ART UNIT 2622
